

426-15



Vacuum

RECORDED

Ag. Leg.

A.D. 1859, 8th OCTOBER. N° 2294.

Preparation of Worts, &c.

LETTERS PATENT to Patrick Robertson, of Sun Court, Cornhill, in the City of London, for the Invention of "IMPROVEMENTS IN PREPARING, BOILING, AND FERMENTING WORTS, AND IN MATURING BEER, SPIRITS, AND CYDER."

Sealed the 2nd March 1860, and dated the 8th October 1859.

PROVISIONAL SPECIFICATION left by the said Patrick Robertson, at the Office of the Commissioners of Patents, with his Petition, on the 8th October 1859.

I, PATRICK ROBERTSON, of Sun Court, Cornhill, in the City of London, do hereby declare the nature of the Invention for "IMPROVEMENTS IN PREPARING, BOILING, AND FERMENTING WORTS, AND IN MATURING BEER, SPIRITS, AND CYDER," to be as follows:—

This Invention has for its object improvements in preparing, boiling, and fermenting worts, and in maturing beer, spirits, and cyder. For these purposes, in preparing worts, the mashing process is conducted in a close vessel, from which the air is withdrawn by means of suitable air pumps. When boiling worts, the process is performed in close vessels, from which the air is withdrawn by suitable air pumps, and, in order to mature beer, spirits, or cyder, the same is introduced into and for a time kept in close vessels, from which the air is withdrawn by suitable air pumps.

Robertson's Improvements in the Preparation of Worts, &c.

SPECIFICATION in pursuance of the conditions of the Letters Patent, filed by the said Patrick Robertson in the Great Seal Patent Office on the 7th April 1860.

TO ALL TO WHOM THESE PRESENTS SHALL COME, I, PATRICK ROBERTSON, of Sun Court, Cornhill, in the City of London, send greeting. 5

WHEREAS Her most Excellent Majesty Queen Victoria, by Her Letters Patent, bearing date the Eighth day of October, in the year of our Lord One thousand eight hundred and fifty-nine, in the twenty-third year of Her reign, did, for Herself, Her heirs and successors, give and grant unto me, the said Patrick Robertson, Her special licence that I, the said Patrick 10 Robertson, my executors, administrators, and assigns, or such others as I, the said Patrick Robertson, my executors, administrators, and assigns, should at any time agree with, and no others, from time to time and at all times thereafter during the term therein expressed, should and lawfully might make, use, exercise, and vend, within the United Kingdom of Great 15 Britain and Ireland, the Channel Islands, and Isle of Man, an Invention for "**IMPROVEMENTS IN PREPARING, BOILING, AND FERMENTING WORTS, AND IN MATURING BEER, SPIRITS, AND CYDER,**" upon the condition (amongst others), that I, the said Patrick Robertson, my executors or administrators, by an instrument in writing under my or their, or one of their hands and seals, should 20 particularly describe and ascertain the nature of the said Invention, and in what manner the same was to be performed, and cause the same to be filed in the Great Seal Patent Office within six calendar months next and immediately after the date of the said Letters Patent.

NOW KNOW YE, that I, the said Patrick Robertson, do hereby declare 25 the nature of the said Invention, and in what manner the same is to be performed, to be particularly described and ascertained in and by the following statement thereof, that is to say :—

This Invention has for its object improvements in preparing, boiling, and fermenting worts, and in maturing beer, spirits, and cyder. For these pur- 30 poses in preparing worts, the mashing process is conducted in a close vessel, from which the air is withdrawn by means of suitable air-pumps. When boiling worts, the process is performed in close vessels, from which the air is withdrawn by suitable air pumps, and, in order to mature beer, spirits, or cyder, the same is introduced into and for a time kept in close vessels from which 35 the air is withdrawn by suitable air pumps.

Having thus stated the nature of my said Invention, I will proceed more fully to describe the manner of performing the same.

Robertson's Improvements in the Preparation of Worts, &c.

In preparing worts by the mashing process, in place of using open vessels as heretofore, I employ metal vessels capable of being closed air-tight, and of resisting an external pressure of several pounds to the square inch, so that they will bear without injury the pressure of the external atmosphere when the
5 air is withdrawn in carrying out the mashing process according to my Invention. The malt is alternately mixed with the water, and then the vessel is closed, and the air pump, or apparatus for extracting the air and vapour, is put into action, and the air or vapour withdrawn, and a partial vacuum kept up till the mashing is completed, which will be in somewhat less time than when mashing
10 in an open vessel, but a better extract will be obtained. The wort thus obtained is then boiled together with the hops in a vessel by preference such as is used by sugar refiners when boiling in a vacuo, but I would state that I do not claim boiling wort and hops in vacuo when the extracting has not been previously performed as above described, and the boiling is to be carried
15 on as heretofore when boiling worts in vacuo.

In fermenting beer the process according to my Invention is carried on in metal vessels capable of sustaining the external pressure of the air when partially exhausted. The boiled wort after the hops have been extracted is placed into a suitable vessel together with yeast, and when the fermentation has
20 been well started, the vessel is to be closed, and atmospheric air, vapour, and gas are to be extracted by an air pump or other suitable exhausting apparatus, keeping up as good a vacuum as may be till the process of fermentation is complete, which may be ascertained by withdrawing a small quantity of the fermented liquor, which may readily be done by an instrument similar to that
25 used by sugar refiners, but capable of withdrawing a larger quantity.

In order to mature beer, spirits, or cyder, the beer, or spirit, or cyder, however manufactured, is placed in a suitable metal vessel capable of sustaining the pressure of the external atmosphere when rendered vacuus, and the beer, spirit, or cyder is retained, subject to as good a vacuum as may conveniently
30 be obtained for several hours, I prefer for about twenty-four hours, but when using large and deep vessels, the process may be continued with advantage for a greater length of time.

In witness whereof, I, the said Patrick Robertson, have hereunto set my hand and seal, this Seventh day of April, in the year of our Lord
35 One thousand eight hundred and sixty.

PAT^K. ROBERTSON (L.S.)

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